BLUEGREEN ALLIANCE

CREATING GOOD JOBS, A CLEAN ENVIRONMENT, AND A FAIR AND THRIVING ECONOMY

WRITTEN TESTIMONY
Jessica Eckdish
Vice President, Legislation & Federal Affairs, BlueGreen Alliance
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Thank you, Chair Castor, Ranking Member Graves, and distinguished members of the committee. My name is Jessica Eckdish, and I am the Vice President of Legislation & Federal Affairs with the BlueGreen Alliance, a national partnership of labor unions and environmental organizations. On behalf of my organization, our partners, and the millions of members and supporters they represent, I want to thank you for convening this hearing on the critical role of manufacturing in achieving a clean economy.

The BlueGreen Alliance unites America's largest and most influential labor unions and environmental organizations to solve today's environmental challenges in ways that create and maintain quality jobs and build a stronger, fairer economy. Our partnership is firm in its belief that Americans don't have to choose between a good job and a clean environment—we can and must have both. Manufacturing provides a unique example of this principle and an opportunity to address the climate crisis, create good jobs, and inject equity into our society as we work to rebuild our economy and recover from the COVID-19 pandemic.

The world's leading scientific organizations have been unambiguous that climate change is a dire and urgent threat and the longer we delay, the stronger the action required. Over the last decade, we have witnessed worsening impacts on our communities. To avoid the catastrophic consequences of climate change, we must ensure rapid greenhouse gas emissions reductions—based on the latest science and in line with our fair share—to put America on a pathway of reducing its emissions to net zero by 2050 and to ensure we are solidly on that path by 2030.

At the same time, our nation is struggling with deep and crippling economic and racial inequality. According to the Economic Policy Institute, "the bottom 90% of the American workforce has seen their pay shrink radically as a share of total income," from 58% in 1979 to 47% in 2015.[i] That is almost $11,000 per household—or $1.35 trillion in additional labor income. There is a direct correlation with the decrease of worker power over this time, as the share of workers in a union fell from 24% in 1979 to under 11% now.[ii]

The COVID-19 pandemic has cast a spotlight on—and exacerbated—all the parts of our society that already weren't working for people in the United States. It also revealed dangerous gaps in our manufacturing supply chains, and in the unsafe and unfair conditions faced by too many workers today.

In these interconnected challenges lies an opportunity to transform our industrial base and rebuild American manufacturing to lead in a clean economy—both to meet our climate goals, to support good union jobs, and to power a real and lasting economic recovery that extends to all.

Worldwide, our competitors are rushing to capture the manufacturing and jobs gains in the rapidly emerging clean economy. The decisions we make now will determine whether the next generation of investments in clean technology are made here in the United States, and whether those investments result in good-paying jobs that are out of reach for too many Americans.

As an integral part of a strategy to address the climate emergency, we have the opportunity to modernize and transform our industrial base to make it the most advanced in the world, while spurring the creation of a new generation of good jobs manufacturing clean technology. This industrial transformation can bring dynamic industries back to communities that have been left behind by deindustrialization and under-investment, and provide a stable base for broadly shared growth and prosperity.

The recently-enacted Bipartisan Infrastructure Law (BIL) takes significant steps in this direction, but it is not enough by itself. Congress must also pass the Build Back Better Act (BBBA). The investments and policies included in the BIL, when coupled with the BBBA, will create good jobs, revitalize the nation's manufacturing sector, fight climate change, and help inject equity throughout our society.

Manufacturing Matters

The industrial sector represents a significant source of U.S. emissions, accounting for 29% of greenhouse gas emissions in 2019 when accounting for its electricity use. This significant source of emissions is only expected to grow. Globally, industrial sector emissions increased at an average annual rate of 3.4% between 2000 and 2014, significantly faster than total carbon dioxide (CO2) emissions.[v] Industrial sector emissions are also growing at a faster rate than other sectors. Between 1990 and 2014, industrial sector emissions increased by 69%, while emissions from buildings, power, and transport increased by only 23%.[vi]
Furthermore, while other economic sectors are projected to see flat or declining emissions, these climate benefits could be offset by increases in industrial emissions under a business-as-usual scenario.[viii] Industrial sector emissions in the United States are projected to increase 17.6% through mid-century.[vii] And reductions in the power and transportation sectors are projected to be offset by an increase in carbon emissions from industrial sources.[ix]

Within the industrial sector, which includes a range of economic activities, manufacturing accounts for roughly three-quarters of emissions. And within manufacturing , several key energy-intensive manufacturing sub-sectors are responsible for the majority of emissions.[x] The six largest sources of industrial sector emissions now—and projecting to the future—are chemicals, petroleum refining, iron and steel, food products, paper products, and cement and lime production. Tackling these industrial sector emissions must be central to our climate strategy moving forward. In addition, such emissions reductions would support improved public health outcomes for workers and communities that live near manufacturing facilities.[xi]

The economic stakes of decarbonizing and rebuilding the manufacturing sector are enormous. Manufacturing directly employs about one in 11 American workers, and contributes $2 trillion a year to the gross domestic product (GDP). Including the industry's purchases of goods and materials, manufacturing accounts for one-third of U.S. economic output or more, and its contribution to the nation's global innovation and competitiveness is substantial; manufacturing accounts for more than two-thirds of private sector research and development (R&D), while the sector's domestic strength plays a central role in the balance of U.S. imports and exports—and the jobs that go with them.

Manufacturing has a long history of supplying good-paying jobs to workers across this country and has been the backbone of the American middle class. However, the nation has lost nearly five million manufacturing jobs since 1997.[xii] Decades of bad policy, offshoring, and outsourcing have weakened supply chains and lost jobs, and the United States has not been taking full advantage of the opportunity to support and strengthen domestic manufacturing. The COVID-19 crisis has underscored the central importance of manufacturing to the country's economy and security, while revealing profound weaknesses in our critical supply chains. The crisis also has spotlighted the urgent need to curb industrial air pollution, which has contributed to increased mortality rates from COVID-19.

If we fail to make the investments needed and put in place smart policies, American manufacturing will continue to weaken. We have a key opportunity to reverse this trend and invest in growing clean technology manufacturing and supply chains in the U.S.

Key Clean Technology Supply Chain Gaps & Opportunities

Countries around the world are rushing to capture the manufacturing and jobs benefits of the global shift to clean energy. Even as the U.S. joins other nations in rapidly deploying clean technology, our ability to manufacture these technologies is not keeping pace and we are dependent on other nations for critical subcomponents or technology. Today, far too many of the solar panels, solar components, electric vehicle (EV) components, and parts and materials for wind turbines that build the clean economy are manufactured overseas and shipped to the United States. [xiii], [xiv], [xv]

Solar

The story of the U.S. solar industry is illustrative of the consequences of the failure to act proactively in the early days of a budding industry and the need for a comprehensive, coordinated industrial policy that marries strong trade and manufacturing rules.

In the early days of solar energy, the U.S. was the leader of solar energy research, development, and manufacturing. However, due to China's aggressive moves through trade policy, subsidy, and massive domestic investment in PV manufacturing around 2008-2013, U.S manufacturing of solar components was largely pushed to the sidelines. Because of inconsistent international trade policy and incoherent federal clean technology manufacturing strategy, the nation has struggled to build a competitive solar manufacturing industry. The few solar manufacturers we have left rely on international supply chains.

For example, U.S. polysilicon manufacturers are entirely captive to Chinese wafer manufacture, which dominates the global market, as their only customers. When China strategically decided to shut down the use of non-Chinese polysilicon in their wafer manufacturing, the U.S. suppliers were essentially frozen out of the supply chain. And it's no better at the other end of the supply chain, where U.S. module manufacturers have no control over the materials sourcing, labor, or environmental practices behind the key components in their modules, because they have no choice but to source them from China. Recent reporting on the substantially lower environmental, human rights, and labor standards, in China, show how ultimately unsustainable this arrangement is, for example, with respect to the ongoing reports of forced labor.[xvi]

Over the years to come, with the dramatic fall in prices for solar and continuing improvements in the manufacture of solar components, the United States has an opportunity to expand PV manufacturing capacity in a way that provides quality, high-road jobs. With strong deployment measures, crafted hand in hand with deliberate manufacturing policies—including direct investment in manufacturing, measures to fill critical supply chain gaps, and a fairer trade policy—the United States can create high-quality jobs and improve our economic security at the same time. Our policies must also support high labor and environmental standards throughout the clean energy supply chain.

Wind

Primarily due to the extraordinary size of the components and the attendant logistical issues of international shipping, the story is brighter when looking at the onshore wind industry, though there is still room for improvement. There are currently more than 500 U.S. manufacturing facilities specializing in wind components.[xvii] Currently more than 90% of nacelles—the housing for the generator, gearbox, and other mechanics—for U.S. onshore wind turbines are assembled in the United States, along with 40%-70% of blades and hubs and 65%-85% of wind towers.[xviii], [xix] However, the materials that can readily be shipped, such as internal nacelle components, like electronics, have very little domestic content. And very few of these facilities are union-represented. We must ensure we expand our domestic supply chain for wind and increase job quality.

The opportunities and risks are even more acute with respect to the budding offshore wind industry. Currently, the United States has just one offshore wind project operating—the Block Island Offshore Wind Farm off the coast of Rhode Island.[xxi] But the potential for responsible offshore wind development in the United States is substantial. According to the U.S. Department of Energy, if the nation utilized even 1% of its technical potential offshore wind capacity, it could power nearly 6.5 million homes.[xx] The industry is rapidly expanding both domestically and internationally and the United States is now projected to create 18.6 gigawatts (GW) of clean and cost-effective offshore wind power in seven Atlantic states within the next decade[xxii]. This has the potential to support 133,000 to 212,000 jobs per year in seven Atlantic states.[xxiii]

However, with this opportunity, the risk of components coming from overseas is high. For example, with the exception of the foundation, all of the major parts and components of the

Block Island Wind Farm were manufactured outside of the United States. The nacelles for the project came from France, the towers from Spain, and the blades from Denmark.[xxv]

As the industry grows, sourcing components domestically represents a significant opportunity to help revitalize American manufacturing. The Special Initiative on Offshore Wind (SIOW)'s recent white paper predicts an almost $70 billion buildout of U.S. offshore wind supply chain by calculating growth in a number of sectors, which include wind turbines and towers; turbine and substation foundations; upland, export, and array cables; onshore and offshore substations; and marine support, insurance, and project management.

However, currently there is no domestic supply chain for these items, meaning that we risk significant portions of the investment to build offshore wind projects flowing out of the economy to purchase technology manufactured abroad, rather than supporting the growth of manufacturing and jobs domestically. We can either seize this opportunity to manufacture the steel, cement, aluminum, nacelles, and other supply chain components here in the United States or we can cede manufacturing the future of the offshore wind industry to our global competitors, where the world leaders and workers in Northern Europe are more than willing to meet our demand.

BGA was pleased to see the Biden administration announce the lease sale of the New York Bight offshore wind project. At 480,000 acres, this project will be the largest offshore wind lease sale in the U.S. history and will add 5-7MW of renewable electricity, powering upwards of two million homes. This announcement from the Bureau of Ocean Energy Management will proactively consider lease sales to companies who are using Project Labor Agreements, and are utilizing the domestic supply chain to procure materials made in the United States.

Strong, long-term policy that drives rapid and responsible deployment and provides investment certainty in offshore wind is necessary, coupled with policies to ensure utilization of domestically manufactured materials, invest directly in U.S. manufacturing facilities, and in related infrastructure like transmission.

Electric vehicles

Happening alongside the nation's transition to cleaner, cheaper forms of energy is an ongoing shift to cleaner vehicles, in particular EVs. The auto sector is at the heart of U.S. manufacturing, and ensuring the United States leads in EV deployment and manufacturing will be critical to sustaining good jobs in auto and auto components manufacturing.

The global transition to EVs is already underway, with our competitors moving quickly to capture the manufacturing and jobs gains in this transition. Today China holds a 70% share of global EV battery production capacity, with the US and Europe lagging with 16% and 10% shares respectively. Looking out ten years, current business-as-usual market projection puts the US even further behind—now lagging Europe with only 12% of global battery capacity.

The security of American jobs in an EV-dominated automotive market depends on swift policy action to leverage our world class manufacturing base and enable it to move rapidly to build electric vehicles, cells, batteries, and electric drivetrain components, at scale, in the United

States. In short, the United States is at a crossroads with EV development. Either we enact policy that secures and potentially grows manufacturing jobs or we step away from technological leadership and cede the next generation of manufacturing jobs to our competitors.

A National Strategy for Industrial Transformation

We need a holistic approach to retaining and growing manufacturing in the U.S., while also investing in these industries to make them the cleanest and most competitive in the world. If done right, a robust federal commitment to rebuild American manufacturing can tackle emissions from this sector, support good, middle-class jobs across America, and help our economy recover in a way that we come out of this crisis more competitive in the global economy. The ability of U.S. manufacturers to produce clean technologies and to use cleaner processes will make them more competitive in a global economy in which market demand is shifting inexorably in that direction.

The U.S. can once again lead the world in manufacturing the technologies and products of the future. But we need a proactive and coherent national strategy to do so. We must make a significant coordinated national investment now to jumpstart domestic clean technology manufacturing, secure critical supply chains in the U.S., transform energy-intensive manufacturing in line with achieving net-zero emissions economy-wide by mid-century, and ensure a new generation of clean and safe industrial development in America.

In 2020, the BlueGreen Alliance released a comprehensive manufacturing agenda proposing a set of national actions to achieve global leadership across clean technology manufacturing; cut emissions from the production of essential materials; upgrade and modernize the entirety of the U.S. industrial base; and undertake a new generation of industrial development that rebuilds good American jobs and is clean, safe, and fair for workers and communities alike.[xxvi]

Such a national strategy must include:

- **Major new investments to spur domestic manufacturing and supply chain development** in rapidly growing clean technologies, as well as increased funding for research, development, and deployment to ensure that American innovation is translated into good jobs and cutting-edge manufacturing in the United States. This should include a focus on environmentally, economically, and socially responsible mining, as well as reclamation and recycling to ensure we're creating the materials necessary for a clean and secure energy future here in the United States;
- **Investments to transform our existing industries**, including investing in efficient domestic materials production and energy-intensive manufacturing to both limit emissions and make them more efficient and competitive globally;
- **Strong labor, environmental, procurement, and safety standards** to strengthen manufacturing and ensure that jobs across these advanced technology fields are good-paying jobs. This includes using proven tools to create and improve job quality—like project labor and community benefit agreements, Buy American, Davis-Bacon prevailing wage, and policies that ensure the use of domestic, clean, and safe materials made by law-abiding corporations.

The BIL makes a number of investments towards these goals. However, key gaps remain and additional policies and investments are needed.

Bipartisan Infrastructure Law (Infrastructure Investment and Jobs Act)

The BIL—takes a number of important steps in this direction. These include:

- $550 million to DOE to provide technical assistance and grants for energy efficiency and emissions reduction at small and medium sized industrial firms. These smaller firms often lack the funding and technical expertise necessary to improve their facilities and processes, and can struggle to keep up. The BIL provides that support and thereby helps these firms to continue to compete in an increasingly carbon constrained global economy. By including investments in modernizing our basic industries, the BIL will not only reduce greenhouse gas emissions, but also create and retain jobs.
- Funding to the DOE to select and manage large-scale pilot and demonstration projects necessary to build next generation industries here. This includes $500 million for project demonstrations of technologies to specifically reduce industrial emissions, as well as funding for other programs and technologies that expand beyond the industrial and manufacturing scope such as $3.47 billion for carbon capture, utilization, and storage (CCUS); $3.5 billion for direct air capture (DAC) hubs; and $8 billion to create regional clean hydrogen hubs that would further develop the production, processing, delivery, storage, and end-use of clean hydrogen. These funds are critical for the U.S. to invest in its industrial and manufacturing future.
- Significant funding for a robust, nationwide EV charging network. Through formula and competitive grant programs, the BIL authorizes the Department of Transportation to provide states and other entities with up to $7.5 billion to build publicly accessible fast chargers across the country. These programs serve to build up the public's confidence in EVs, ensure an equitable distribution of EV charging infrastructure in rural and low-income communities, and—with strict adherence to Buy America standards—spur the growth of a domestic supply chain for electric vehicle supply equipment.
- Up to $5 billion to transition America's school buses, which are typically powered by diesel, to less polluting alternatives like electric school buses. The BIL creates a new U.S. Environmental Protection Agency (EPA) program, called the Clean School Bus Program, which equips school districts and other bus-purchasing entities with the funding and technical assistance to transition school bus fleets and install the appropriate charging/fueling infrastructure. Transitioning school bus fleets is a win for children's health, local communities' air quality, the environment—and with the right workforce protections and a strong commitment to supporting the domestic electric school bus supply chain—for the workers who drive and manufacture the clean school buses.
- Expansion of the Advanced Technology Vehicles Manufacturing (ATVM) Loan program to cover medium- and heavy-duty vehicles—as well as maritime vessels, trains, aircraft, and hyperloop technology—and the facilities making their component parts. Similar to the 48C tax credit for clean technology manufacturing and industrial emissions reduction investment targeted to coal communities, the expansion includes a $750 million grant program and a significant investment in battery and battery component research and development, manufacturing, and recycling. These investments are an excellent step to

retool U.S. automotive manufacturing to build the EV technology of the future in today's plants and communities.

These are all important manufacturing and industrial transformation provisions and implementation of these provisions, done right, will have a significant impact on achieving the goals outlined above. However, significant funding and programmatic gaps remain. For example, while the BIL includes funding for technical assistance, energy efficiency and emissions reduction, CCUS and industrial emissions demonstration projects, and hydrogen and direct air capture hubs—these latter programs are not targeted specifically at energy intensive industries and the funding allocated to deployment of emissions reduction technology for industrial firms is far smaller than the billions in investment necessary to meet the widespread need. In addition, the BIL does not fill a critical funding gap in the ATVM or provide the funding needed to fill clean technology supply chain gaps and for urgently needed manufacturing conversion grants to reopen, retool, and expand existing facilities to build the clean technology of the future.

Major additional investments are needed to support and grow clean technology supply chains and to enable strategic energy intensive facilities to deploy technology that deeply cuts carbon and conventional pollution, and safeguard critical industries and jobs in the United States. That's why Congress must now pass the BBBA, which fills critical programmatic and funding gaps not addressed by the BIL.

Clean Technology Manufacturing & Supply Chains

The House-passed BBBA includes critical incentives and fills key gaps left by the BIL to promote clean technology manufacturing, including efforts to update and improve our tax policy to reshape our clean energy economy, strengthen American manufacturing and domestic supply chains, and ensure that family sustaining jobs come with it. More specifically, the House-passed BBBA:

1. **Extends and Strengthens Clean Energy Tax Credits to Drive Demand for Domestic Manufacturing**: The BBBA extends and strengthens—and makes refundable—key clean energy tax credits, including those for onshore and offshore wind, solar, clean transportation, EV charging infrastructure, grid modernization, and energy efficiency. Critically, these tax credits are coupled with labor standards and procurement policies that ensure the use of domestic materials and support employers that adopt high road labor practices, including prevailing wages and utilization of registered apprenticeship.

2. **Grows Domestic Manufacturing and Clean Energy Supply Chains**: Policies that increase the demand for clean technology must go hand in hand with incentives to support and grow American manufacturing and domestic supply chains. Already, as the nation increases deployment of clean technology, our ability to manufacture those products and the parts and materials that go into them is falling further behind as demand increases.[xxvii] That is why targeted investments and smart policies are needed to ensure that the nation is able to capture the benefits of the clean energy economy.

   The BBBA includes two key policies that can support this. First, it **renews and robustly funds the Advanced Energy Projects Credit (48C):** The Advanced Energy Projects

Credit is a 30% investment tax credit created to reequip, expand, or establish domestic clean energy, transportation, and grid technology manufacturing facilities. The House-passed BBBA robustly funds this program at $25 billion dollars and expands its scope to capture the manufacture of key energy and carbon reducing technologies, such as battery cells. The bill also targets these investments to key workers and communities.

Second, the bill **enacts new clean technology manufacturing production tax credits (PTC)** to create a durable incentive for domestic production of strategic clean energy technologies. In addition to the up-front investment incentive of 48C, this structure gives an incentive to expand operations to a globally competitive scale quickly and substantially to help fill gaps in the solar supply chain, by providing a per-unit credit for domestically produced modules, photovoltaic cells, photovoltaic wafers, and solar grade polysilicon.

Coupling a PTC with other manufacturing and deployment incentives could help reverse decades of disinvestment, offshoring, and inconsistent manufacturing policy that has weakened our once competitive edge. Importantly, such an incentive would reward large scale and efficiency, exactly what we need to compete in these rapidly expanding global industries and help ensure our manufacturing remains strong and resilient against future subsidies and potential dumping by our competitors. We need a coordinated approach, including measures such as new clean technology production tax credits as included in the BBBA, to incentivize strategic technology manufacturing here, harness American ingenuity, and drive down deployment costs while adding family-sustaining jobs across the country.

Automotive Manufacturing and Retooling Investment

The BBBA also builds on the BIL to advance robust funding to strengthen the domestic automotive supply chain, protect workers and communities, and build the EV fleet of the future here. That includes investments to retool automotive manufacturing to build the EV technology of the future in existing plants and communities. A recent report from the Economic Policy Institute shows that robust policy to retool existing production, expand domestic clean vehicle manufacturing in the U.S., and onshore EV and EV technology production is essential to protecting and creating domestic manufacturing jobs in the coming shift to EVs. To this end, the BBBA:

1. **Refills the ATVM loan program**: The bill provides $3 billion in credit subsidy funding to the ATVM loan program, which is essential to meet light-duty vehicle and component retooling needs and support expansion to medium- and heavy-duty vehicles and their supply chains. Coupled with the uncapped loan authority as provided in the BIL, these ATVM provisions will enable at least $20B in new loans in these sectors. Past ATVM funding has supported the building or expansion of major facilities across eight states that today support tens of thousands of manufacturing jobs and hundreds of thousands of jobs collectively across the economy.
2. **Funds conversion and retooling grants**: The bill provides first-ever funding at $3.5 billion for the important manufacturing conversion and industrial retooling grants

program, which is focused on reinvestment in existing factories, particularly to retool facilities at risk of closure. This important program can play a critical role in protecting jobs and rebuilding local networks of manufacturing as technology shifts.

3. **Supports a job-sustaining transition to clean vehicles:** Consumer incentives stand to play a significant role in shaping the shift to electric vehicles and the manufacturing, jobs, and community impacts of that transition. The BBBA updates the existing 30D consumer tax credit to incentivize domestic assembly, domestic content, and high road labor standards. Through a phased-in domestic assembly requirement and a significant bonus for customers who purchase vehicles made by union workers, the structure of the proposed updated credit helps retain and grow the next generation of high-skill, high-wage, family-supporting jobs in the United States and support the growth of high volume, high-quality domestic electric vehicle production and supply chains necessary to remain competitive in this space over the long term. To address equity issues with the existing credit, the updated BBBA language makes the credit refundable at the point of sale, making it significantly easier to access for moderate income and working-class households. Additionally, BBBA establishes a used EV tax credit, which further extends access to EVs for consumers and works to establish a robust secondary market for EVs.

   BGA also supports the ongoing work to expand the 30C tax credit for charging infrastructure, as the robust proliferation of easily accessible charging will be essential to the success of EV adoption. Incentives for charging infrastructure should ensure availability for all communities, with a priority on filling gaps in low income, rural, and deindustrialized communities and communities of color, and availability for residents of multi-family housing, and be refundable. These incentives should also require safety-first workforce training for the installation and maintenance of electric vehicle supply equipment (such as the Electric Vehicle Infrastructure Training Program, or EVITP) and the domestic manufacture of charging stations.

Investment to Support Industrial Transformation

Policies to grow domestic manufacturing and clean technology supply chains must go hand in hand with a robust reinvestment in domestic manufacturing facilities to ensure that we not only once again lead the world in manufacturing the technologies and products of the future but also to ensure our manufacturers are the cleanest and most competitive in the world. Other nations are going first in modernizing heavy industry. They are demonstrating cutting edge, low-carbon processes for producing energy-intensive basic materials and fuels that will be essential to future global competitiveness and emissions reduction. If the United States hopes to compete and to lead, we need to invest in transforming our manufacturing and industrial sectors at the same or greater scale and pace.

Such investment must include technical assistance, financing, and other financial support for domestic facilities to re-tool and upgrade their facilities and processes as well as investment in innovation to drive down costs and barriers to critical industrial pollution-reduction strategies. The House-passed BBBA:

1. **Provides funding to deploy clean industrial technologies at scale**: Provides at least $4 billion in new funding to aid companies in carrying out major carbon emissions and pollution-reducing upgrades at strategic energy-intensive manufacturing facilities.
2. **Funds rapid industrial emissions reduction through key tax credits**: It is essential to enable more rapid deployment of a wide range of industrial emissions reduction technology that not only saves and creates jobs and makes domestic manufacturing more competitive, but achieves important additional carbon—and conventional—pollution reductions in a key emitting sector. The bill increases funding for industrial CCS under the 45Q tax credit and extends industrial energy efficiency tax credits. Funding for projects that reduce emissions from energy-intensive industrial facilities—such as steel, cement, and aluminum production—under a robustly funded 48C Manufacturing Tax Credit can also be beneficial.
3. **Funds embodied emissions transparency and disclosure**: Provide $250 million in funding to EPA to provide grant and technical assistance to manufacturers to develop and utilize Environmental Product Declarations (EPDs), which are essential for the accurate comparison of the embodied carbon in manufactured products and materials and for developing the data infrastructure upon which a Buy Clean program may be built.

These policies will help the U.S. achieve global leadership across clean technology manufacturing; cut emissions from the production of essential materials; upgrade and modernize the U.S. industrial base; and undertake a new generation of industrial development that rebuilds good American jobs and is clean, safe, and fair for workers and communities alike.

Ensuring Job Quality and Fairness for Workers and Communities

Finally, as we work to drive down emissions to address the climate crisis and stay competitive in the global race to develop the clean technology of the future, we must ensure that these investments translate into quality, family-sustaining jobs and support workers and communities.

We can see examples of how clean energy investments can spur economic recovery, the growth of a clean economy, and high-quality job creation. For example, a heavily unionized crew of tradespeople built the Block Island offshore wind project off the coast of Rhode Island, union auto workers on factory floors across the country are building cleaner cars and trucks, and workers in St. Louis and Los Angeles are gaining access to high-skilled jobs in energy efficiency retrofitting, pipefitting, and transit manufacturing. These are good, union jobs building and maintaining a clean energy and climate-resilient economy, today. At the same time, not enough of the new jobs that have been created or promised in the clean energy economy are high-quality, family-sustaining jobs and the quality of jobs varies a great deal throughout these sectors.[xxx]

As we work to meet our climate goals, we need to make a massive investment in energy efficiency and the deployment of clean and renewable technology nationwide. At the same time, we must ensure that these investments translate into *good* jobs, and we must ensure that we are not only ensuring these are good jobs, but *accessible* jobs. This includes supporting and growing pathways into good union jobs in these and other sectors for workers of color and other segments of the population historically left out of these jobs.

To achieve these goals, a critical tool at our disposal is unionization. Research has shown that through the collective bargaining power of unions,[xxxi] workers are able to get more and better benefits such as health insurance and pensions, and are able to fight for more enforcement of the labor protections they have a right to under the law, like enforcement of safety and health regulations, and overtime. And research has shown that across the board, union members earn higher wages than non-union workers,[xxxii] and the difference is most pronounced for workers of color and women. White union members earn on average 17% more than their non-union counterparts. Female union members earn 28%, Black union members earn 28% more and Latino union members earn 40% more in wages than non-union Latino workers. Increasing union density in the clean energy sector is therefore a key way to address the inequity inherent in our economy.

Other key mechanisms for job quality, building career pathways, and increasing job access are prevailing wage standards, registered apprenticeship, pre-apprenticeship, and other union-affiliated training programs. Project Labor Agreements (PLAs), Community Workforce Agreements (CWAs) and Community Benefit Agreements (CBAs) are additional opportunities. These types of agreements often include local hire provisions, targeted hire of low-income or disadvantaged workers, and the creation of pre-apprenticeship pathways for careers on the project. We must ensure that steps are taken to require or incentivize these kinds of high road labor standards and responsible labor practices.

These kinds of policies will help ensure that as we meet our climate goals and support and grow our domestic manufacturing supply chains, that workers truly reap the benefits. Researchers from Princeton University [xxxiii] in a recent working paper found that increasing wages and the amount of domestic content in the solar and wind energy industries will result in significant benefits for workers in those industries, including billions in higher wages and hundreds of thousands of new jobs in the 2020s. The researchers found paying workers 20% more and increasing the use of domestic content would generate an additional $5 billion in annual wages in the 2020s, which equates to increasing each worker's average annual wages by over $12-13,000. And by producing more of these components here in the United States, we can support an additional 45,000 jobs in the 2020s.

Finally, as we transition to a new, cleaner economy, we can't leave impacted workers or communities behind. A transition that is fair for impacted workers and communities isn't something that will happen organically. We have to choose to invest in keeping communities and workers whole and in the economic development and diversification of regions impacted by this shift. We have to do so with a recognition that the best approach to energy transition among workers and communities is one that prevents economic disruption and employment loss in the first place. Part of this strategy should include targeting clean energy and manufacturing investments towards workers and in communities experiencing the economic impacts of energy transition as part of a broader set of investments to build a clean, prosperous, and equitable economy for all.

Conclusion

As the United States ramps up efforts to grow the clean economy, making these investments right—and making them now—will give us the opportunity to lead globally, rebuild good, union jobs in manufacturing communities across the nation that have been struggling, and bolster innovation and production of the clean technology of the future here at home. At the same time, moving forward without putting the right policies in place to lift up the quality of the jobs created and ensure workers and communities see the benefits of these investments would put the burdens of economic transition on workers.

The solutions to the crises we're facing—climate change and economic and racial inequality—are as interconnected as their causes. We appreciate the work of this Committee to advance a path forward that recognizes this reality and provides solutions to create a stronger, cleaner, and more equitable economy that works for all Americans.

The smart policies we're talking about today would not only increase the standard of living of millions of Americans, but increase their quality of life, all while continuing to drive down the costs of the clean technologies we need to deploy to secure our children's future and tackle the climate crisis. Such a win-win-win opportunity is nearly unprecedented in our history.

Thank you again for the opportunity to speak today.

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[ii] Ibid.

[iii] U.S. Environmental Protection Agency (EPA), Sources of Greenhouse Gas Emissions. Available online: https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions

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